

RECEIVED
CENTRAL FAX CENTER

Atty Dkt. No. 31182-6
Serial No. 10-019,655

OCT 31 2007

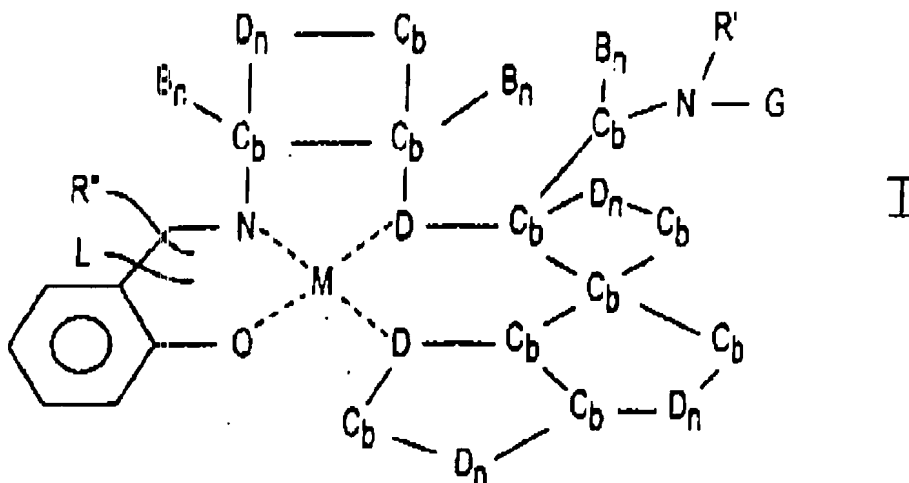
Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1 - 66. (Cancelled)

67. (New) A labeled nickel complex compound having formula I:



wherein:

B independently represents doubly bonded oxygen;

C represents carbon;

D independently represents nitrogen or oxygen;

L is a detectable label, optionally attached to a linker;

M represents a nickel ion;

b is from 0 to 6;

n is 0 to 1;

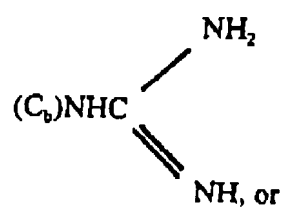
Atty Dkt. No. 31182-6
 Serial No. 10/019,655

R' represents hydrogen, alkyl, aryl or a peptide chain;

R'' is R, R' or G;

G represents OH, an amide or a DNA delivery agent; and

R represents a nitrogen-containing cationic group, optionally attached to a linker, wherein said cationic group is at least one C_b group linked to a nitrogen atom, (CH₂)₃ NH₂, (CH₂)₄ NH₂, C_bN (C_b)₀₋₃.



pyridyl.

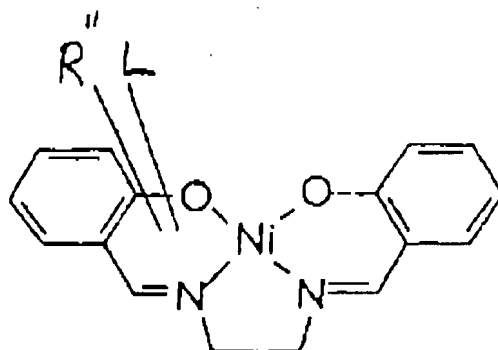
68. (New) The labeled nickel complex compound of claim 67, wherein said DNA delivery agent comprises intercalators, oligonucleotides, proteins or polyanhines.

69. (New) The labeled nickel complex compound of claim 67, wherein R' is a peptide chain.

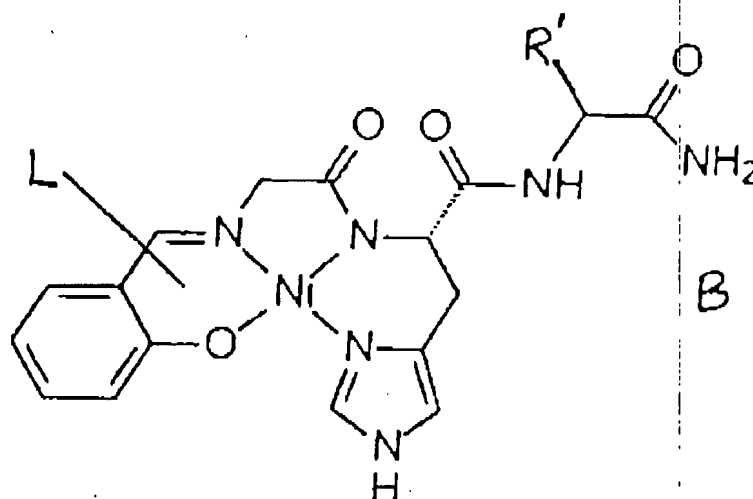
70. (New) The labeled nickel complex of claim 67, wherein the detectable label is a radioactive compound, a protein ligand, a fluorescent compound or an enzyme.

71. (New) The labeled nickel complex of claim 67, wherein the detectable label is biotin.

72. (New) A labeled nickel complex compound, having formula A or B:

Att'y Dkt. No. 31182-6
Serial No. 10.019.655

A



B

wherein:

R' represents hydrogen, alkyl, aryl or a peptide chain;

R'' represents R, R' or G;

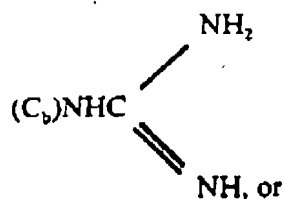
BEST AVAILABLE COPY

Atty Dkt. No. 31182-6
Serial No. 106019,655

L is a detectable label, optionally attached to a linker;

G represents -OH, -OR, an amide or a DNA delivery agent; and

R represents a nitrogen-containing cationic group optionally attached to a linker, wherein said cationic group is at least one C_6 group linked to a nitrogen atom, $(CH_2)_3 NH_2$, $(CH_2)_4 NH_2$, C_6N $(C_6)_{0-3}$,



pyridyl.

and wherein the label is biotin.

73. (New) A labeled nickel complex compound, which is Ni-salen-biotin complex.
74. (New) A labeled nickel complex compound, which is Ni(salen-Lys(biotin) His Arg) complex.
75. (New) A method for detecting a non-canonical nucleic acid sequence comprising binding the labeled nickel complex compound of claim 67, to a sample of nucleic acid, and detecting a signal of the detectable label on the labeled nickel complex compound.
76. (New) A method for detecting a non-canonical nucleic acid sequence comprising binding the labeled nickel complex compound of claim 72, to a sample of nucleic acid, and detecting a signal of the detectable label on the labeled nickel complex compound.

Att. Dkt. No. 31182-6
Serial No. 10 019.655

77. (New) A labeled hybrid compound comprising the labeled nickel complex compound of claim 67, complexed with a protein or oligonucleotide.

78. (New) The labeled hybrid compound of claim 77, wherein the labeled nickel complex compound is labeled with a radioactive compound, a protein ligand, a fluorescent compound or an enzyme.

79. (New) A labeled hybrid compound comprising the labeled nickel complex compound of claim 72, complexed with a protein or oligonucleotide.

80. (New) The labeled hybrid compound of claim 79, which is complexed with the protein; wherein a penultimate amino acid from the N-terminus of the protein is histidine.

81. (New) A method for detecting or measuring protein-nucleic acid interaction comprising mixing the labeled hybrid compound of claim 77, with a solution of nucleic acid, and assaying for the signal from a detectable label attached to the nucleic acid.

82. (New) A method for purifying a nucleic acid-nickel-complex adduct, comprising:
a) mixing the labeled nickel complex compound of claim 67, with a solution of DNA,
b) subjecting the mixture of step a) to a separation medium, wherein the medium contains a material that specifically binds to the label, and
c) separating the bound medium from the solution mixture, wherein the adduct is bound to the material of the separation medium.

83. (New) The method of claim 82, wherein said separation medium is affinity chromatography.

84. (New) The method of claim 83, wherein said label is biotin, and the material in the separation medium binds to biotin.

Att. Dkt. No. 31182-6
Serial No. 10 019,655

85. (New) The method of claim 84, wherein the material binding to biotin is avidin.
86. (New) The method of claim 84, wherein the material binding to biotin is streptavidin.
87. (New) A method for purifying a nucleic acid-nickel-complex adduct, comprising:
- a) mixing the labeled nickel complex compound of claim 72, with a solution of DNA,
 - b) subjecting the mixture to a separation medium, wherein the medium contains a material that specifically binds to the label, and
 - c) separating the bound medium from the solution mixture, wherein the adduct is bound to the material of the separation medium.
88. (New) The method of claim 87, wherein said separation medium is affinity chromatography.
89. (New) The method of claim 87, wherein the material binding to biotin is avidin.
90. (New) The method of claim 87, wherein the material binding to biotin is streptavidin.
91. (New) A method for detecting or measuring protein-nucleic acid interaction comprising mixing the labeled hybrid compound of claim 72, with a solution of nucleic acid, and assaying for the signal from a detectable label attached to the nucleic acid.